

**WASTE MANAGEMENT OF HAWAII, INC.'S RESPONSES TO
DEPARTMENT OF HEALTH'S
MARCH 17, 2011 REQUEST FOR INFORMATION**

General Objections

Waste Management of Hawaii, Inc. ("WMH") objects to the Department of Health, Clean Water Branch Requests for Information, dated March 17, 2011 ("RFI") on the following grounds:

1. The terms referenced in the RFIs are vague and ambiguous.
2. The scope of the questions in the RFIs are unduly burdensome, overly broad and seek information that is not relevant to the stormwater-related operations and activities.
3. The RFIs also call for WMH to speculate as to what information DOH would find "necessary".
4. The RFIs seek information or documents that are not within WMH's possession, custody, or control.
5. The RFIs seek the disclosure of confidential and/or proprietary information.
6. The RFIs seek the disclosure of information or documents protected by the attorney-client privilege, work product doctrine, and other applicable privileges provided by statute, rules and common law.

Subject to and without waiving or limiting these objections, WMH responds to the RFI as follows. The responses are made without prejudice to WMH's right to amend or supplement its responses. WMH is still in the process of gathering information and documents responsive to the RFI and will supplement its response as needed and/or requested.

Responses to RFI

1. *What responsibilities does Waste Management Hawaii (WMH) have with regard to the operation of the Landfill and related stormwater facilities?*

Response: WMH operates the Landfill pursuant to Contract No. 48689 with the City and County of Honolulu. The specific responsibilities for operating the Landfill are set forth in the Contract, as well as in various operating plans, permits, and regulations. Generally speaking, WMH is responsible for most aspects of operating a solid waste landfill, except for the operation of the scale and collection of fees. WMH's primary operational responsibilities include: designing, engineering, and construction of the landfill and its ancillary systems and facilities (e.g., leachate collection system, gas collection and control system, stormwater management system, and roads), properly disposing of ash and solid waste delivered to the landfill (e.g., placement of waste, compaction, waste acceptance, application of daily and interim cover),

environmental compliance, health and safety compliance, and other such activities typical of operating a solid waste landfill.

1(a). Does WMH have complete operational control over the activities conducted at the Landfill? If not, please detail the legal entity responsible for operation of the Landfill.

Response: This request does not define what is meant by “complete operational control” and therefore WMH must object to this term because it is undefined and ambiguous. Notwithstanding this objection, WMH responds that the extent of WMH’s “operational control” over the activities conducted at the Landfill are defined by the Contract with the City and County of Honolulu, the approved operating plans, the various permits that are applicable to the landfill, and applicable federal, state, and local statutes, regulations, ordinances, and similar requirements. Furthermore, numerous other entities have the ability to control and/or direct operations at the landfill, including, but not limited to, the City and County of Honolulu, the Hawaii Department of Health (“DOH”), and the United States Environmental Protection Agency (“EPA”). Indeed, given the numerous, detailed, and prescriptive requirements in the 2010 Solid Waste Management Permit No. LF-0182-09 (the “SW Permit”) issued by DOH, much of the landfill operational activities are dictated by the conditions imposed by DOH.

1(b). Does WMH have complete operational control over the stormwater drainage at the Landfill? If not, please detail the legal entity responsible for the storm water drainage.

Response: As discussed in WMH’s prior response (and incorporated herein by this reference), WMH’s operation of the Landfill is dictated by a number of other entities and by various permits, statutes, regulations, and similar legal requirements. With respect to the design, construction and operation of the stormwater drainage system – including the timing of its installation – at the Landfill, the DOH-issued SW Permit specifically dictates how and when WMH undertakes these activities. The SW Permit specifies:

The construction of the western bypass channel and temporary drainage system shall be in accordance with the construction drawings, titled *Western Surface Water Drainage Project*, prepared by GEI Consultants, Inc., and dated January 2010. These drawings also contain the construction requirements for the temporary storm water drain system, which will include installing a 36-inch HDPE pipe along the bottom of Cell E6 under the base liner and construction of a temporary diversion berm in Cell E7.

Exhibit “1” at 18 (SW Permit, Special Condition II.B(3)(a)). The DOH-issued SW Permit further specifies the design standard for the 24-hour, 25-year storm event:

At a minimum, the permittee(s) shall construct and maintain the following:

(a) A western bypass channel or offsite surface water conveyance for the upper canyon and western area flows, in accordance with construction drawings titled *Western Surface Water Drainage Project*, dated January 2010 and prepared by GEI Consultants, Inc. This conveyance shall be designed to handle 24-hour, 25-year storm flows, and will bypass the landfill and terminate in a stilling basin to be constructed below the existing sedimentation pond. See Special Conditions, Part II, Section B.3.

Exhibit “1” at 39-40 (SW Permit, Special Condition II.G(1)(a)).

Furthermore and most relevant to the recent storm events, DOH through the SW Permit understood the risks of and dictated what WMH should do in the event of a significant storm event during the construction of the western diversion channel:

During the construction of the Western Drain and temporary stormwater drain systems, there may be periods when there will either be no means to convey stormwater around the landfill or a storm of sufficient magnitude occurs that causes stormwater to overflow the temporary diversion berm for the temporary stormwater drain into cell E6. Prior to such a rain or storm event, permittee(s) shall take action by covering pocket areas with geomembrane sheet, and setting up pumps or other methods as necessary to control and direct surface water runoff in order to prevent or minimize infiltration of surface water into the landfill cells and erosion of landfill cover.

Exhibit “1” at 40 (SW Permit Special Condition II.G(1)(b)(iii)) (emphasis added).

It must also be noted that the timing for cell construction and installation of the stormwater drainage system was dictated by the DOH and the State of Hawaii Land Use Commission (“LUC”), not WMH. Engineering and construction of the drainage structure could not begin until after the LUC approved the landfill expansion on October 22, 2009. Cell construction could not begin until DOH issued the SW Permit on June 7, 2010. The design, engineering, and construction of the diversion channel is a massive undertaking, with an estimated cost of over \$15 million. Similarly, the construction of additional landfill cells – and specifically Cell E6 – is also a large-scale construction project. The unfortunate timing of the permitting for the two projects – as well as the ongoing political uncertainties over the future of the Landfill – did not allow for the construction of the drainage channel to be completed before the construction and filling of Cell E6 had to begin. As DOH clearly recognized, WMH had to begin waste disposal in Cell E6 before completion of the western drainage channel; otherwise Oahu would have faced a months-long solid waste crisis without any available landfill capacity.

Finally, during the recent storm events, DOH, and even EPA, asserted significant operational control over the stormwater drainage at the Landfill. For example, on Monday, December 20, 2010, WMH informed the DOH Solid Waste Branch that WMH was pumping stormwater from Cell E6 into the lower (completed) portion of the drainage channel. The following day, Tuesday, December 21, 2010, inspectors from the DOH Clean Water Branch came to the Landfill and were also told that WMH was pumping stormwater from Cell E6. Neither disagreed or told WMH to stop pumping stormwater. WMH considered the need to pump stormwater from Cell E6 as a best management practice under its SW Permit and NPDES General Permit to prevent or minimize stormwater coming into contact with significant sources of pollutants.

Two days later, however, on Thursday, December 23, 2010, representatives from the Solid Waste Branch and the Clean Water Branch visited the site and asserted incorrectly that WMH was discharging leachate and should stop all further pumping of stormwater from Cell E6. WMH complied, although asserted that it was not discharging leachate and advised that if WMH

could not discharge stormwater from Cell E6 there would be a significant risk that the water in the cell could overtop the temporary berm, resulting in very serious erosion and potentially serious flooding. Based on this directive from DOH, and the subsequent Administrative Order on Consent (“AOC”) executed with EPA, WMH stopped all further pumping and discharging of stormwater from Cell E6 into the lower diversion channel.

In summary, WMH did not have “complete operational control” over stormwater drainage at the Landfill. Rather, DOH asserted significant operational control over the management of stormwater both through the SW Permit and its directives issued after the December 19-20, 2010 storm and throughout until the end of January 2011.

2. *What major activities were conducted at the Landfill between December 1, 2010 and January 20, 2011?*

Response: The activities conducted at the Landfill between December 1, 2010 and January 20, 2011 included those contemplated by the SW Permit and those that are typical of operating a solid waste landfill, including waste acceptance and disposal, general site excavation, new cell construction, and environmental compliance and monitoring. In addition, construction of the western drainage system was continuing, as contemplated by the SW Permit. Also, the major storm events occurring in December 2010 and January 2011 necessitated additional activities in order to manage the huge amount of stormwater flowing onto the site. Those additional activities included construction of temporary berms, staging of pumps, pumping stormwater, and other measures needed to mitigate the impacts from the stormwater run-on and run-off. These activities were consistent with the Landfill’s plans and its SW Permit. *See, e.g.,* Exhibit “1” at 40 (SW Permit Special Condition II.G(1)(b)(iii)) (“Prior to such a rain or storm event, permittee(s) shall take action by covering pocket areas with geomembrane sheet, and setting up pumps or other methods as necessary to control and direct surface water runoff in order to prevent or minimize infiltration of surface water into the landfill cells and erosion of landfill cover.”); Exhibit “2” at 30 (Emergency Action Plan (Oct. 2007) § 3.6) (listing measures to be taken “to protect against excessive erosion, flooding, and wind damage before and during severe storms.”)

2(a). *Include a daily timeline and summary of all major activities (e.g. landfill construction, waste acceptance, pumping, draining, berm construction, liner repair, cell construction, general landfiling, etc).*

Response: The following table summarizes the timeline of the major activities occurring during the period December 1, 2010 and January 20, 2011:

Major Activity	Time Period
Waste Acceptance¹	
• Normal Waste Acceptance	Dec. 1-31 & Jan. 2-12
• No Waste Acceptance	Jan. 13, 14, 16, 17, 18, 22, 23, 24, 26, 27
• Limited Waste Acceptance	Jan. 15, 19, 20, 21, 25, 28, Feb. 6, 13, 14, 20, 27

¹ The Landfill never stopped accepting ash.

Construction	
• Berm Construction	Ongoing since 2005; for this particular period December 19 – 27, January 10 - 11
• Cell Construction *	Prior to December 19th
• Diversion Channel Construction	Ongoing since November 2009; for this particular period Dec. 1- end of relevant period (Jan. 20)
Storm Mitigation	
• Pumping & Discharging Stormwater to Diversion Channel	Dec. 19-23, 2010 Jan. 13-16, 2011
• Pumping Stormwater to Collection Tanks for Off-Site Disposal	Jan. 6 until end of relevant period (Jan. 20)
• Liner Repair	Jan. 17 – April 1, 2011

*Cell construction activities were limited to excavation and grading work only since storm events during this period severely curtailed any construction activities.

2(b). *Provide all documentation necessary to confirm the activities conducted. Documents should include, but are not limited to, work orders, work summaries and/or quantities of solid waste landfilled.*

Response: WMH objects to this request as being ambiguous, unreasonably burdensome, and irrelevant. The request relates to “all major activities” at the Landfill and documentation “necessary to confirm the activities conducted.” WMH is willing to provide reasonable documentation if DOH can be more precise in what it is seeking. As written, it is unclear as to what documentation is really necessary and relevant. For example, what is the relevance of documentation to establish that WMH accepted waste for disposal on December 6, 2010 and not on December 25, 2010? What is the relevance of documentation proving that WMH was repairing liner in a given cell during this time period? If DOH can provide a more precise description of the documentation being sought, WMH will produce those documents provided that the request is reasonable and not burdensome.

3. *What significant rain events did the Landfill experience between December 1, 2010 and January 20, 2011?*

Response: Although this request does not define what is meant by a “significant rain event”, WMH considers three large storms during this period to have been significant because they were unforeseeable in size, proximity, and timing, and therefore had significant impacts on the Landfill’s operations and stormwater management systems. The first major storm occurred on December 19-20, 2010 and generated a total recorded rainfall at the Palehua station of 10.44 inches. The second significant rain event occurred on December 26-27 and generated a total recorded rainfall at the nearby Palehua weather station of station of 5.68 inches. The storm was significant because it occurred less than one week after the December 19-20 storm. The third and largest storm occurred on January 12-13, 2011. The storm produced 12.21 inches of rain in total, with 10.68 inches of rain falling in a 24-hour period. Most significant was the short-term intensity of this storm, which generated 7.63 inches of rain during a 6-hour period, 6.23 inches of rain over a 3-hour period, and 3.65 inches of rain over a 1-hour period.

3(a). *Provide all Landfill rainfall data for the period listed above. Data must be specific for the Waimanalo Gulch watershed. Specify from what location this data was obtained and justify why it applies to the Landfill.*

Response: Rainfall data for the Palehua rain gage are found at the National Weather Services web site: www.raws.dri.edu/cgi-bin/rawMAIN.pl?hiHKAP. See Exhibit “3” for the rainfall data for December 2010 and January 2011 from the Waimanalo Gulch Landfill rain gage. The most relevant gage location is the Palehua gage because it provides the best measurement of the amount of rainfall that fell in the watershed *mauka* of the Landfill. The Palehua rain gage is located approximately 2 miles northeast of the upper end of the Landfill. Given that the amount of rain falling uphill of the Landfill in the upper elevations of the watershed directly impacted the diversion and storage capacity of the Landfill’s stormwater system, the best measurement of the quantity of stormwater impacting the Landfill would be the Palehua gage. The rain gage located near the Landfill’s office also provides useful information about the amount of rain falling during the three storm events; however, the information from this rain gage is less useful in quantifying the flash flooding at the Landfill than is the Palehua rain gage.

3(b). *Provide a calculation for the magnitude of any rainfall event recorded by the Landfill during the above referenced time period.*

Response: The “magnitude” of a rainfall event can be expressed in a number of ways, such as the total quantity of rainfall, the peak rainfall, the duration and intensity of the rainfall, or as comparisons to 25-year, 100-year, or even 500-year storm events. For purposes most relevant to this RFI, WMH believes that the most relevant quantifications of the magnitude of a storm event are: (1) a comparison to the regulatory standard applicable to landfill design (i.e., the 25-year, 24-hour storm); and (2) a comparison to historical data of the intensity of the storm over shorter term periods, such as the 1-hour, 3-hour, and 6-hour storm events.

The total amount of rainfall recorded for the December 19-20 storm was 10.44 inches. Over a 24-hour period, the Palehua gage recorded 8.4 inches of rain, which is comparable to the 25-year, 24-hour storm event (approximately 8.75 inches).

As mentioned, the second December 26-27 storm event was less than the 25-year, 24-hour storm event but occurred less than one week after the December 19-20 storm event. Total rainfall recorded at the Palehua gage was 5.68 inches for this storm. The timing of this storm event is important because Cell E6 still contained stormwater from the earlier storm event because DOH had directed WMH to stop pumping and discharging the stormwater to the lower diversion channel.

The third, and largest, storm event on January 12-13 generated over 12 inches of rainfall before it ended. The storm’s magnitude exceeded the 100-year storm event for the 6-hour, 3-hour, and 1-hour storm periods. While the storm did not exceed the magnitude of the 100-year storm event for the 24-hour storm period for the Palehua gage, the rainfall generated in the 24-hour period was substantially higher (10.68 inches) than the 25-year, 24-hour storm magnitude (8.75 inches). The National Weather Service described the January 12, 2011 storm with specific reference to the Palehua station as having the greatest rainfall on Oahu:

The maximum total of 10.68 inches in 24-hours occurred at the Palehua gage on the south-facing slope of the Waianae Mountains. The most noteworthy values from the Palehua data were the maximum short-duration totals of 7.63 inches in 6 hours, 6.23 inches in 3 hours, and 3.65 inches in 1 hour. All of these short-duration totals exceeded the 1-percent annual probability level for the Palehua gage site.

See <http://www.prh.noaa.gov/hnl/hydro/pages/jan11sum.php>.

Although monthly rainfall totals are not as relevant as the short-term, high-intensity storm events, the monthly rainfall totals for December 2010 and January 2011 were well above normal. For the Palehua gage, the December rainfall total was 22.12 inches, compared to a December average of 4.91 inches – an amount 4.5 times the average. In fact, the month of December 2010 received two-thirds of the total average rainfall that the Palehua rain gage receives for an entire year. For January 2012, the monthly rainfall total was 13.19 inches compared to the average January rainfall of 5.70 inches – 2.3 times average. For comparison, this means that in one 3-hour period, the Landfill received more rainfall (6.23 inches) than is typically received during the entire month of January (5.70 inches).

3(c). *Provide all rainfall data from the Landfill rain gauge located on the Landfill premises for the above listed period.*

Response: See Exhibit “3” enclosed herewith.

4. *What did WMH do in preparation for, or in response to, rain events which occurred between December 1, 2010 and January 20, 2011?*

Response: In response to the three major storms, WMH took immediate, appropriate and reasonable preventative and corrective actions pursuant to its permits and plans. WMH also worked closely with Federal, State and City agencies (and their respective branches), including EPA, DOH, and the City and County of Honolulu Department of Environmental Services (“ENV”), to protect public health and safety as well as ensure protection of the environment. WMH cooperated with all of the entities, keeping them fully informed of WMH’s activities, responding promptly to their questions and conducting multiple site visits with their representatives.

When the storms occurred, WMH was in the process of—and nearly finished with—constructing a new storm water diversion system designed to direct future storm water from up-canyon of the Landfill around the main body of the Landfill instead of through it. By way of background, a full expansion of the landfill was contemplated in 1999, but when the City, instead, opted to seek a 21-acre, 5-year capacity extension to the landfill in 2002, WMH could not proceed with the design for a stormwater diversion system for the full expansion, but only for the smaller permitted 21-acre expansion. In 2004, the City Council selected the Landfill as its future landfill site, necessitating another expansion. In 2006, WMH began the design process for the current storm water diversion system. Because the diversion system was to be located outside of the existing Special Use Permit boundary, WMH could not begin building the diversion system until the Special Use Permit was amended to allow for the full build-out of the Landfill. The LUC finally issued the Special Use Permit at the end of October 2009, which allowed WMH to begin engineering studies, final design, contracting, and construction of the

diversion channel. The \$15 million diversion system project, which required a great deal of engineering and planning, was mere weeks from functional completion when the first storm occurred on December 19, 2010. Had the December 2010 storms not occurred, the diversion channel would likely have been functionally complete by the time the January 12, 2011 storm occurred.²

In terms of storm preparation activities, WMH undertook a number of activities to prepare for and mitigate the potential impacts from a major storm event that was unfortunately coinciding with the final construction phase of the stormwater diversion channel. One major undertaking was the construction of a containment berm in Cell E6 during the December 19-20 storm event. This berm was necessary to contain stormwater that was accumulating in Cell E6 because of the unfortunate concurrence of the storm and the final phase of the diversion channel construction. WMH determined that the berm would be necessary to mitigate the risk that the large amount of rainfall could overflow from cell E6 and flood toward the Kahe Power Plant property. The berm held during the storm and successfully contained the collected stormwater, even after DOH caused WMH to stop pumping stormwater and discharging it to the lower drainage channel. WMH also placed a pump in the northern part of the cell to pick up water in anticipation of the December 19 storm. Prior to December 27, 2010 storm, WMH cleaned out drains and continued pumping (until they were advised by DOH to discontinue pumping).

In addition to berm construction, and in advance of the December 2010 storms, WMH covered Cell E6 and set up pumps in accordance with permit requirements. After the December 2010 storms, WMH further reinforced the berm in advance of the January 12, 2011 storm, again as a preventative measure against flooding the Kahe Power Plant. Also, in advance of the January 12, 2011 storm, a contractor worked on grading the area near the stormwater bypass pipe in the construction area to keep the pipe clean in the event of the storm.

In response to the three storms, WMH personnel worked many long and difficult hours to mitigate and repair the impacts of the storms. These activities included: pumping stormwater from Cell E6 and other areas where stormwater had collected; transportation of collected stormwater to the treatment plant after DOH alleged that discharging stormwater to the lower stormwater channel would be a violation of the NPDES General Permit; cleaning the sediment collected in Cell E6 and the sedimentation basin; inspecting and repairing the liner and drainage layers in Cell E6; repairing and fortifying of diversion and containment berms; fortifying on-site ditches; constructing a containment berm directly south of Cell E6; repairing, cleaning, and improving the functionality of the drainage system for the construction area above Cell E6 that had become clogged with sediment from the storms.³ WMH's Emergency Action Plan was implemented before and after the storms.

² Prior to the December 19, 2010 storm, the construction of the diversion system was ahead of schedule. WMH's contractor had been working double shifts before the December 2010 storms and, thereafter, continued to work double shifts to construct the diversion system to have it functionally completed as soon as possible. As a result of the delays and repair work caused by the three storm events, the diversion system became functionally complete on February 14, 2011.

³ This inlet became clogged with sediment as a result of the December 2010 storms and, despite WMH's steps to prevent the clogging, the clogging was unpreventable due to the intensity of the storms. After the December 2010 storms, WMH reinforced and enlarged a downstream diversion berm (by increasing the height and base area

Additionally, WMH excavated an area surrounding a future landfill cell to create additional storm water retention, dissipate storm water velocities, and detain stormwater to allow sediment to drop out as it flowed from the upper reaches of the construction area towards the inlet structure. Between the two December storms, an engineer performed a site assessment of the cells and stormwater system, and stormwater samples were collected and tested. Following the January storm, the containment berm was reinforced such that the berm doubled in size, and the reinforced berm had a factor of safety of at least 2.0 against slope failure.

4(a). Provide details for all activities associated with either containment, drainage, or the drainage system at the Landfill during the indicated period.

Response: See prior response to RFI 4.

4(b). Include detailed information regarding any activities associated with the E6 cell.

Response: WMH objects to this RFI because it is vague, overbroad, and unduly burdensome. It is unclear what is meant by the terms “detailed information”, “any activities”, or “associated with” Cell E6. Notwithstanding these objections, WMH incorporates its prior responses and further states that WMH undertook the following activities with respect to Cell E6. Prior to the December 19-20 storm, WMH covered Cell E6 with soil in accordance with permit requirements. The building of the containment berm on the southern edge of Cell E6 began on December 19, 2010, and during that day, no stormwater was pumped out of or escaped from Cell E6. On the evening of December 19, 2010, WMH started pumping stormwater from Cell E6 into the stormwater system because the containment berm was in danger of being overtopped. The liquid was stormwater, not leachate. WMH voluntarily informed DOH of the pumping from Cell E6 on December 20th. WMH advised DOH that it would continue such pumping on several occasions prior to December 23rd. During the December 27, 2010 storm, Cell E6 filled again but the containment berm held. By January 12, 2011, prior to the onset of the storm, the depression down canyon of Cell E6 still contained stormwater. Because of constraints on the quantities of pumped water that could be transported and accepted at the waste water treatment plant, WMH could only pump up to approximately 100,000 gallons per day from Cell E6. The day after the January storm, and upon obtaining approval from DOH, WMH started pumping from Cell E6 and the sediment basin to the permitted drainage outlet. WMH used best management practices to ensure the pumps did not take any solid waste. WMH also assessed the containment berm and found no seepage, but the berm was nonetheless reinforced to prevent a risk of flooding toward the Kahe Power Plant.

5. Did WMH conduct any activities at the Landfill which resulted in the discharges of storm water, potentially contaminated water (including contaminated storm water, leachate or any other landfill wastewater) or solid waste during between December 1, 2010 and January 20, 2011?

Response: WMH objects to this request because it is vague and ambiguous. Without waiving the generality of this objection, WMH specifically objects to the terms “potentially contaminated water (including contaminated stormwater, leachate or any other landfill wastewater).” It is unclear what is intended by the terms “potentially contaminated water.”

surrounding the inlet) to further direct any storm water into the inlet structure. In anticipation of the January 12, 2011 storm, WMH re-graded the area immediately surrounding the inlet structure to keep the inlet as clean as possible, and armored it with large boulders to prevent high sediment from clogging the inlet.

Does this mean discharged water that was not contaminated but potentially could have been? Does it include stormwater that contained naturally-occurring pollutants or background levels of pollutants? Notwithstanding the ambiguity of this request, WMH responds as follows:

- **December 1-19**

Prior to the storm event on December 19-20, any stormwater collected on site would have been managed pursuant to various WMH plans, primarily its Storm Water Pollution Control Plan (“SWPCP”) and Surface Water Management Plan (“SWMP”). Any stormwater that fell or flowed on-site would have been managed through the stormwater management system. Since there were no significant storms prior to December 19, 2010, little if any stormwater would have been discharged off-site. WMH did not discharge leachate into the stormwater collection system during this period.

- **December 19-23**

As previously discussed, in response to the major December 19-20, 2010 storm, WMH pumped stormwater that had temporarily collected in Cell E6. On December 20, 2010, WMH informed DOH that it was pumping this stormwater and would continue to do so. Other DOH staff were informed during a site visit on December 21, 2010 that WMH was pumping stormwater. WMH continued aggressively pumping stormwater in order to minimize or prevent the potential for contact of stormwater with waste. Given that a fundamental purpose of the NPDES General Permit is to implement best management practices to prevent or minimize contact between stormwater and waste materials, WMH considered the need to pump stormwater from Cell E6 to be consistent with and a priority obligation under the NPDES General Permit. Nonetheless, DOH notified WMH on December 23, 2010 that it believed that WMH was pumping leachate from Cell E6 and therefore was violating the NPDES General Permit. WMH disagreed with this interpretation, and the subsequent analytical results from these discharges confirmed that the stormwater being discharged was not leachate. In light of DOH’s position, WMH stopped further pumping of stormwater and discharge to the drainage channel. WMH did not discharge leachate into the stormwater collection system at anytime during this period.

- **December 23-January 13**

After WMH stopped pumping stormwater from Cell E6, WMH provided DOH with the information that it requested during the December 23, 2010 site visit, including information about the storm water sampling and the cation and anion analysis, rainfall volume, and rainfall data.⁴ See Exhibit “4A” (January 7, 2011 Lottig email). WMH had its stormwater consultant onsite collecting stormwater samples at the permitted discharge location. Although the consultant was unable to obtain the sterilized sample containers required for bacteria analysis, a sample was collected to satisfy the NPDES requirements (major cation and anion analysis were added), the results of which showed elevated levels for only iron and zinc. See Exhibit “4A” (January 7, 2011 Lottig email). The test results “confirm that the storm water met state and federal standards for storm water runoff, except for naturally-occurring background

⁴ With respect to the December 23, 2010 sampling of the December 19, 2010 storm, WMH orally provided the results to CWB on January 5, 2011, shortly after the results were received; on January 7, 2011, WMH provided CWB with the results of the cation and anion analysis; and on January 10, 2011 and again on January 20, 2011, WMH provided CWB with the written report, which included laboratory results. See Exhibit “4A” (January 7, 2011 Lottig email), Exhibit “6” (January 10, 2011 Lottig email) and Exhibit “7” (January 20, 2011 Lottig email).

concentrations of iron and zinc, which are typically found in storm water discharges throughout Oahu.” See Exhibit “5” (January 13, 2011 Steinberger Letter). WMH did not discharge leachate into the stormwater collection system during this period.

- **January 13-20**

Due to the magnitude of the January 12, 2011 storm, every drainage system associated with the WGSL was being overwhelmed. (In fact, most stormwater drains throughout west Oahu were overwhelmed and DOH declared an island-wide “brown water advisory-out” due to the large amounts of stormwater flowing into the ocean from virtually every area of the island.) On January 13, 2011, Deputy Director Gill authorized WMH to pump stormwater from Cell E6 and discharge it into the lower diversion channel that then would flow to the sedimentation basin to the permitted drainage outlet and discharge off-site. Pumping began at 7:00 p.m. on January 13, 2011 and continued through 10:00 a.m. on January 16, 2011, when DOH, in conjunction with EPA, instructed WMH to stop pumping. Although the stormwater that accumulated on Cell E6 was not leachate, out of an abundance of caution, WMH agreed to send accumulated stormwater to wastewater treatment plants to facilitate the reopening of Cell E6 and to enable WMH to move forward with the continued operation of the Landfill. Water samples were taken on January 13, 2011, the results of which showed levels of enterococcus and clostridium perfringens consistent with polluted runoff with storm events typically found in the ocean after heavy rains in Hawaii. See Exhibit “8” (January 16, 2011 DOH press release). WMH provided DOH with the results from the sampling on January 21, 2011 and the final laboratory results on January 24, 2011, shortly after receiving them. See Exhibit “9” (January 21, 2011 Lottig email) and Exhibit “10” (January 24, 2011 Lottig email). WMH did not discharge leachate into the stormwater collection system during this period.

5(a). Disclose all activities conducted by WMH which may have purposefully or inadvertently resulted in the storm water discharges from the Landfill.

Response: WMH objects to this request because it is vague and ambiguous. Specifically, the request erroneously implies that the discharge of stormwater from the Landfill is somehow prohibited. As DOH is aware, the discharge of stormwater occurs at virtually every facility, house, building, parking lot, road, field, park, beach, and similar surfaces throughout the State of Hawaii. Most locations that discharge stormwater are not even required to have permits for their stormwater discharges. The Landfill, however, does have a stormwater permit and therefore purposefully discharges stormwater pursuant to the terms of the permit and the applicable SWPCP. The “activities” requested to be disclosed would be the release or discharge of stormwater (either by natural flow or by pumping) into the Landfill’s stormwater collection system, which flows to the on-site sedimentation basin, and then off-site.

5(b). Provide all documents which detail the activities conducted which may have purposefully or inadvertently resulted in the discharge of storm water, potentially contaminated water or solid waste.

Response: See Response to RFI 5(a) above, including the objections therein. Since stormwater is the natural result of rainfall, with the subsequent conveyance through WMH’s stormwater system, it is unclear what documentation DOH is seeking to document “the activities ... which may have purposefully or inadvertently resulted in the discharge” of storm water. As discussed in response to RFI 5, the only affirmative activities undertaken that resulted in the

discharge of stormwater would have been the pumping of stormwater from Cell E6 during the period December 19-23 and later during the period January 13-16. During other periods, stormwater would have been discharged through WMH's stormwater system, without any specific "activities". Documents addressing the December 19-23 and January 13-16 activities are enclosed as Exhibits "4A and 4B" (January 7, 2011 Lottig emails), Exhibit "6" (January 10, 2011 Lottig email), Exhibit "7" (January 20, 2011 Lottig email), Exhibit "9" (January 21, 2011 Lottig email), Exhibit "10" (January 24, 2011 Lottig email), and Exhibit "11" (January 21, 2011 Frey email).

5(c). Include all information which details the responsible person(s) who specifically authorized any activity which may have resulted in the discharges from the Landfill.

Response: As discussed above, the discharges of stormwater from the Landfill are authorized pursuant to the NPDES General Permit issued by DOH to the City and County of Honolulu on August 30, 2010. Accordingly, the responsible person for authorizing the discharges of stormwater at the site would be DOH.

Notwithstanding the authorization to discharge stormwater granted by the NPDES General Permit, representatives from DOH's Clean Water Branch (Matthew Kurano and Jamie Tanimoto) inspected the Landfill on December 23, 2010 and alleged that WMH was illegally discharging leachate, not stormwater, from Cell E6. However, these same DOH inspectors were at the Landfill on December 21, 2010 and previously indicated that they had no problem with the pumping of stormwater. As a result of these discussions on December 23, 2010, WMH stopped further pumping of stormwater from Cell E6 and stopped further releases from the sedimentation basin. After the December 27, 2010 storm event, WMH began pumping the collected water from both the sedimentation basin and Cell E6 starting on January 6th. This water was pumped into tanker trucks for off-site disposal at the Kailua Wastewater Treatment Plant and Waianae Wastewater Treatment Plant. Stormwater remained in the sedimentation basin and Cell E6 when the second December storm hit and then when the much larger January storm hit. See Exhibit "16".

On January 13, 2011, WMH informed DOH that the prior night's massive rainstorm had inundated the sedimentation basin and Cell E6. Cell E6 was at risk of overtopping the temporary berm, which could have resulted in the failure of the temporary berm and possible flooding of the neighboring Kahe Power Plant. The sedimentation basin had already overtopped and stormwater was therefore discharging off-site. At a meeting with DOH, the City, and WMH on January 13, 2011, Mr. Gary Gill, DOH's Deputy Director for Environmental Health, authorized WMH to resume pumping stormwater from Cell E6 and discharging it into the lower diversion channel that then would flow to the sedimentation basin and discharge off-site.

5(d). Include all information as to who specifically may have conducted an activity which resulted in discharges from the Landfill.

Response: See Response to RFI 5 (a)-(c) above, including the objections therein.

6. *Were there discharges of storm water or any storm water mixture which was contained in the E6 cell between December 1, 2010 and January 20, 2011?*

Response: Yes. Between December 19-23, 2010, stormwater that had collected in Cell E6 was pumped and discharged to the Landfill's stormwater collection system, which is designed to discharge off-site, pursuant to the NPDES General Permit. After DOH representatives erroneously alleged that WMH was illegally discharging leachate, not stormwater, from Cell E6, WMH stopped further discharges of stormwater from Cell E6. No further discharges of stormwater from Cell E6 occurred between December 23, 2010 and January 13, 2011, when Mr. Gill authorized WMH to resume pumping and discharging stormwater. WMH continued pumping and discharging stormwater from Cell E6 until 10:00 a.m. on January 16, 2011.

6(a). *Detail all discharges from the E6 cell to the storm water drainage system for the period. Include time, date, estimated volumes, responsible person(s), and any analytical data associated with the discharges.*

Response: During the period December 19-23, 2010, WMH pump and discharged stormwater from Cell E6 into the stormwater drainage channel. Pumping began at approximately 5:00 p.m. on the evening of December 19, 2010 and continued until approximately 5:00 p.m. on December 23, 2010. WMH is unable to estimate the volume of stormwater discharge during this period. WMH sampled stormwater on December 23, 2010 and the results of the sampling are enclosed as Exhibit "4A" (January 7, 2011 Lottig email), Exhibit "6" (January 10, 2011 Lottig email) and Exhibit "7" (January 20, 2011 Lottig email).

During and after the third storm on January 13, 2011, WMH pumped and discharged stormwater from Cell E6 into the stormwater drainage channel. Pumping began at approximately 7:00 p.m. on January 13, 2011 and continued until approximately 10:00 a.m. on January 16, 2011. WMH estimates that approximately 13.9 million gallons of stormwater were discharged during this period. WMH sampled stormwater on January 13, 2011 and the results of the sampling are enclosed as Exhibit "9" (January 21, 2011 Lottig email) and Exhibit "10" (January 24, 2011 Lottig email).

6(b). *Summarize [the] each discharge event and provide the context as to how and why each discharge occurred.*

Response: See Response to RFI 6(a) above. With respect to the request to "provide the context" relating to the discharge, WMH must object because the request is so vague and ambiguous that it cannot be reasonably answered. WMH has summarized the discharge events and does not know what further "context" is being requested.

6(c). *Provide any/all documentation which details any discharges which occurred from the E6 cell for the period.*

Response: See Exhibit "11" (January 21, 2011 Frey email).

6(d). *Detail who specifically authorized any discharges and provide documentation of the approval to discharge.*

Response: See Response to RFI 5(c) above.

7. *Were there discharges of solid waste from the Landfill to the stormwater drainage system between December 1, 2010 and January 20, 2011?*

Response: WMH is aware of only one instance when solid waste materials were discharged through the Landfill's stormwater drainage system. Stormwater was observed overtopping the sediment basin when employees arrived at the site early in the morning on January 13th. However conditions in the area were not safe enough to perform a detailed onsite assessment at the time. WMH employees discovered that solid waste had left the facility during a midmorning inspection at the stormwater drainage system discharge location. The pumping portion of the discharge began on January 13, 2011, after Deputy Director Gill approved WMH pumping and discharging stormwater from Cell E6. This approval was granted at around 12:30 PM, but did not commence until nearly 6:30 PM. The delay was caused by the requirement to install sufficient pumps. As a result of the huge amount of rainfall from the January 12th storm, Cell E6 was inundated and at risk of overtopping the reinforced temporary berm.

7(a). *Detail all discharges of solid waste from the E6 cell for the period. Include time, date, estimated volumes, responsible person(s), and any compositional information associated with any solid waste discharged.*

Response: WMH objects to this request because it is vague, ambiguous, unduly burdensome, and calls for the disclosure of confidential information. Without waiving these objections, WMH responds by incorporating its response to RFI 7 above.

7(b). *Summarize [the] each discharge event and provide the context as to how and why each discharge occurred.*

Response: WMH objects to this request because it is vague, ambiguous, unduly burdensome, and calls for the disclosure of confidential information. Without waiving these objections, WMH responds by incorporating its response to RFI 7 above.

7(c). *Provide any/all documentation which details the specific source of any solid waste discharges which occurred during the period.*

Response: WMH objects to this request because it is vague, ambiguous, unduly burdensome, and calls for the disclosure of confidential information. WMH also objects to the term "specific source" as ambiguous. Without waiving these objections, WMH responds by incorporating its response to RFI 7 above.

8. *Between December 1, 2010 and January 20, 2011, did WMH have a storm water management plan for the Landfill?*

Response: Yes. The Landfill maintains several plans for addressing stormwater issues. Those plans include:

- *Surface Water Management Plan* (Aug. 31, 2009) (SWMP)
- *Spill Prevention Control and Countermeasure Control Plan* (Jan. 2009) (SPCC)
- *Storm Water Pollution Control Plan* (Jan. 2009) (SWPCP)
- *Emergency Action Plan* (Oct. 2007) (EAP)

These plans are all contained in the Landfill's Site Operations Manual, which has previously been provided to DOH.

8(a). *Provide the Landfill's storm water management plan.*

Response: The enclosed Exhibits "12" and "13" are copies of WMH's current SWMP and the SWMP that was in effect at the time of the December-January storms. WMH can provide copies of other plans relevant to stormwater management upon request.

8(b). *Identify parts of any storm water management plan which address run-on to the E6 cell.*

Response: The principle section of the 2009 SWMP that addresses stormwater run-on is Section 3.0. The SWMP and the other stormwater-related plans were prepared in 2009 and do not reference Cell E6 because at the time the plans were prepared, cell E6 had not yet been permitted. Cells E5 through E9 constitute the recent expansion approved by the SW Permit issued in June 2010. However, a Surface Water Management Plan was subsequently prepared (and approved) as an update of the SWMP, which does specifically address the E6 cell. See Exhibit "12" (WGSL Surface Water Management Plan (March 2011)).

8(c). *Detail how the Landfill's storm water management plan either adequately or inadequately addressed any storm event experienced during the above referenced period.*

Response: This RFI unjustifiably presumes that WMH's storm water plans were developed to manage stormwater from the series of three major back-to-back storms that struck west Oahu over a three week period. One of those storms was equivalent to the 25-year, 24-hour design storm and another exceeded the 100-year magnitude for the 1-hour, 3-hour, and 6-hour duration storm events. Furthermore, these storm events occurred during a critical time in the construction of the western drainage channel. DOH was well aware that significant storm events occurring during this phase of the drainage channel construction would likely result in stormwater entering Cell E6. As quoted above, DOH expressly recognized that the existing stormwater management system would not be able to divert stormwater around Cell E6 during the construction of the drainage channel:

During the construction of the Western Drain and temporary stormwater drain systems, there may be periods when there will either be no means to convey stormwater around the landfill or a storm of sufficient magnitude occurs that causes stormwater to overflow the temporary diversion berm for the temporary stormwater drain into cell E6.

See Exhibit "1" at 40 (SW Permit Special Condition II.G(1)(b)(iii)).

Notwithstanding the unprecedented magnitude and proximity of the December-January storms, as well as the unfortunate timing of the storms (during drainage channel construction), WMH's plans were adequate to address the large amounts of stormwater. Moreover, its personnel implemented those plans and tirelessly undertook numerous other measures to deal with the emergency situation presented by these storms and the huge amount of water generated.

The EAP requires WMH to take certain measures to protect against excessive erosion, flooding and wind damage before and during severe storms. This plan was implemented preceding and following the December and January storms. The EAP provides that prior to a forecasted storm:

- WGS� personnel will inspect all drainage on-site structures to verify that they are in working order.
- Excessive silt in ditches and basins will be removed and the condition of pipes and discharge structures from basins will be verified.
- Diversion berms will be constructed around the current disposal area as needed to prevent run-on from entering the waste fill, and to prevent runoff from the waste fill areas of the site.
- Interim cover will be placed over exposed waste at the end of the working day prior to the forecasted beginning of a severe storm.

See Exhibit “2” at 30 (EAP). All of these procedures were completed before and following the storms. Additionally, a severe storm form was completed for each storm on the following days. After the December 19, 2010 storm, WMH took the extra step of having a registered engineer complete and certify the inspection, even though not required by the EAP or the permit. See Exhibit “14” (December 30, 2010 Lottig email).

The SPCC includes the systems and procedures related to facility drainage (Section IV at p. 12-1), while the SWPCP addresses, among other things, spill prevention and response procedures and also includes a separate storm water monitoring and reporting program plan (Section V, Appendix B). As explained in the SWPCP, stormwater is managed by controlled grading on the surface of the landfill and by maintaining an engineered system of drainage swales, rock rip-rap lined channels, risers, pipes, and detention ponds. The SWMP describes the surface water management practices to prevent run-on and control run-off from a 25-year, 24-hour storm event, as specified in the WGS� solid waste permit and required by State regulations.

The main surface water management systems used to control surface water run-on and run-off are a Western Bypass, Western Drainage System and an Eastern Drainage System. The temporary drainage features associated with each system will be in service in the Cell E5 through E9 area and will be modified or taken out of service as fill grades are raised in the landfill and areas of the landfill are closed. See Exhibit “13” at 5 (WGS� SWMP). The permanent drainage features associated with each system will control site run-on and landfill run-off as the Cell E6-E8 area is expanded and will also be in place after the landfill is closed. See Exhibit “13” at 5 (WGS� SWMP). Additionally, the Eastern Drainage system will be extended into the Cell E5-E9 area, while the Western Drainage System will convey run-on flows from landfill grades in the Cell E6 through E8 area and includes a temporary diversion pipe that will convey storm water flows from areas to the north of cells E6 through E9. See Exhibit “13” at 6 (WGS� SWMP).

8(d). Detail any activities which deviated from the Landfill's storm water management plan during the above referenced period.

Response: To the best of WMH’s knowledge, there were no material deviations from the SWMP during this period, other than those deviations directed or approved by DOH.

8(e). Identify any/every part of the Landfill's storm water management plan which did not adequately address rain events experienced during the above referenced period.

Response: See Response to RFI 8(a) above.

9. *Were the construction activities conducted at the Landfill covered by a National Pollutant Discharge Elimination System (NPDES) permit authorizing the discharge of storm water associated with construction activities?*

Response: Stormwater discharges from the operating activities – including construction activities – are covered by the *Notice of General Permit Coverage* issued by DOH on August 30, 2010. The *Notice* specifically implements the *NPDES General Permit Authorizing Discharges of Stormwater Associated with Industrial Activities*. See Exhibit “15” at 5 (*Notice*, Condition 7). The stormwater discharges from landfill construction and development are not subject to the NPDES permitting for discharges of storm water associated with construction activities.

9(a). *If yes, provide all documentation associated with the issued NPDES permit.*

Response: As discussed above, the Landfill’s stormwater discharges are covered by the *NPDES General Permit Authorizing Discharges of Stormwater Associated with Industrial Activities*. The stormwater discharges from landfill construction and development are not subject to the NPDES permitting for discharges of storm water associated with construction activities.

9(b). *If no, provide all reasons and authorizations which justify why an NPDES permit authorizing the discharge of storm water associated with construction activities was not obtained.*

Response: The stormwater discharges from landfill construction and development are not subject to the NPDES permitting for discharges of stormwater associated with construction activities. As discussed above, DOH correctly issued to the City and County of Honolulu the applicable *Notice of General Permit Coverage* (Aug. 30, 2010), which specifically implements the *NPDES General Permit Authorizing Discharges of Stormwater Associated with Industrial Activities*. As the historical originator of the NPDES General Permit, the U.S. Environmental Protection Agency has long-recognized that landfills are long-term construction projects that are nonetheless subject to permitting as an industrial activity, not as a construction activity. See, e.g., *Final National Pollutant Discharge Elimination System Storm Water Multi-Sector General Permit for Industrial Activities*, 60 Fed. Reg. 50804, 50938 (Sep. 29, 1995). (“A typical MSWLF is a constantly evolving facility which is constructed over its operating life as received wastes are spread, compacted, and covered. Most modern landfills contain one or more separate ‘units’, planned final waste containment areas.... MSWLF construction creates constant changes in the contours of the facility resulting in changing patterns of storm water runoff.”).

10. *Provide the names and positions of any person either employed by WMH or under the direction of WMH on the following dates:*

Response: Excluding persons employed by WMH at other sites in Hawaii or not otherwise involved with the Landfill, the following persons were employed by WMH on the dates December 19-23, 2010; December 28-29, 2010; and January 10-14, 2011:

Employee	Position
Bob Wekenborg	Operator
Ed Kam	Shop Assistant/Laborer
Florencio Asumen	Senior Technician
Jesse Frey	Engineering Manager
Joe Whelan	General Manager

Justin Lottig	Environmental Protection Manager
Keoni Rosario IV	Operator
Leeann Estrella	Operator
Natalie Corella	Operations Specialist
Rick Kahalewai	Operations Foreman
Smith Lafaele	Operator
Willie Gomez	Landfill Gas Technician

During this time period, WMH contracted with the following companies in connection with general landfill operations, landfill construction activities, and stormwater response activities:

- Goodfellow Bros., Inc. (general contractor);
- Pacific Commercial Services, LLC (pumping contractor);
- AEG (contractor);
- AECOM (construction manager and quality control engineers);
- Pacific Electro-Mechanical, Inc. (electrical contracting and technical services); and
- ALTRES and Akamai Services (temporary staffing agencies).

All of these companies contract with WMH as independent third-party contractors who are responsible for directing the work of their individual employees. While WMH directs the activities of its contractors, WMH is not responsible for directing the work of its contractors' employees and therefore these employees are not "under the direction of WMH."

WMH understands that Goodfellow Bros., Inc. has previously submitted information to DOH that is responsive to this RFI.

11. Any additional information which may be necessary for the DOH-CWB to determine whether WMH violated or complied with Hawaii Water Pollution rules and regulations.

Response: WMH objects to this request because it is vague, ambiguous, unduly burdensome, and calls for the disclosure of confidential information. Without limiting the generality of this objection, WMH objects to this request because it requires WMH to speculate as to what information DOH-CWB would find "necessary". Without waiving these objections, WMH responds that the Landfill staff and other WMH representatives and contractors responded promptly, professionally, and tirelessly to the huge challenges presented by an unprecedented amount of rainfall from three large storms that occurred over a three-week period. The unfortunate concurrent timing, intensity, and magnitude of the storms with the final stages of the western drainage project made these challenges even more difficult. Nonetheless, WMH responded appropriately to these events, in compliance with all applicable permits, plans, and other requirements. While dealing with the operational challenges from the storms, WMH and the CCH kept in close communication with DOH and EPA. While WMH wishes that aspects of these events could have been avoided (e.g., the release of small quantities of solid waste and treated and sterilized medical waste), WMH firmly believes that its response to these storms was professional, effective, appropriate, and compliant with all applicable laws, regulations, permits, and directives.

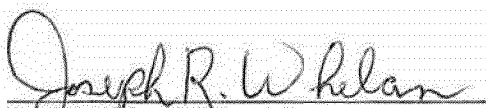
Identify all individuals who helped prepare the response to these questions, were consulted in preparing the responses to these questions, or who otherwise have personal knowledge about the answers to these question. Provide copies of all documents used in answering these questions.

Response: WMH objects to this request because it is vague, ambiguous, unduly burdensome, and calls for the disclosure of confidential and privileged information. Notwithstanding this objection, WMH identifies the following persons who assisted in preparing these responses:

Jesse Frey	WMH Personnel
Justin Lottig	WMH Personnel
Joseph Whelan	WMH Personnel
Rick Von Pein	WMH Personnel
Steve Businger, Ph.D.	WMH Consultant
Andrew Kenefick	WMH Attorney
Lorraine Akiba	WMH Attorney

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Dated: April 20, 2011



JOSEPH R. WHELAN

General Manager

Waste Management of Hawaii, Inc.

Enclosures on CD – Exhibits “1” – “16”